REMARKS

Applicant thanks the Examiner for the careful review of this application. Claims 1, 6, 16, 21, 25 and 29 were amended to clarify the claimed embodiments. No new matter was added. Claim 24 was previously canceled without prejudice. Therefore, claims 1-23 and 25-34 remain pending in this application.

DECLARATION

The original declaration was objected to because Applicant's address information was not included. Applicant is therefore supplying a new declaration that includes Applicant's address. Withdrawal of the declaration objection is respectfully requested.

## REJECTIONS UNDER 35 U.S.C. § 102(b) AND 35 U.S.C. § 103(c)

Claims 1-8, 11-13, 16-18, 21-23, 25-27 and 29-34 were rejected under 35 U.S.C. § 102(b) as being anticipated by Koo (U.S. Patent No. 5,940,070). Claims 9-10, 14-15, 19-20 and 28 were rejected under U.S.C. § 103(c) as being unpatentable over Koo in view of Limberg (U.S. Patent No. 5,555,024) Applicant respectfully traverses for the following reasons.

Koo apparently discloses a data transmission apparatus for transmitting an audio signal through a video signal cable for a computer system that includes a monitor having a sound speaker. The computer system further includes an audio generating device for generating an audio signal; a video generating device for generating a video signal and synchronization signals, a first audio buffer for temporary retaining the audio signal and outputting the audio signal during a blanking interval of the video signal in accordance with the synchronization

signals; and a multiplexer for multiplexing the audio signal with the video signal by inserting the audio signal into the blanking interval of the video signal and for generating a multiplexed signal. A video signal cable is connected between the computer system and the monitor for transmitting the multiplexed signal from the computer system to the monitor. The monitor includes a demultiplexer connected to the video signal cable, for demultiplexing the multiplexed signal received from the video signal cable by separating the audio signal and the video signal from the multiplexed signal in accordance with a control signal and for generating a separated audio signal and a separated video signal; a second audio buffer for temporarily retaining the separated audio signal and outputting the separated audio signal to the sound speaker for sound production in accordance with the control signal and the synchronization signals; and a video display for simultaneously enabling a visual display of the separated video signal on a screen in accordance with the synchronization signals.

Limberg apparently discloses an NTSC television signal transmitter that also transmits through the same transmission channel a suppressed data carrier having a frequency differing from that of video carrier, having a symbol rate that is a multiple of horizontal scanning rate of video signal, having data frames occurring at a data frame rate that is the same as the video frame rate, and transmitting the symbols transmitted in each of alternate data frames in opposite phase during the next data frame. The data carrier has no image on the other side of the video carrier and preferably its modulation spectrum overlaps the video carrier. A digital-signal receiver can recover data from such a data carrier buried in an NTSC television signal, using frame-comb filtering to separate data from interfering video signal.

Aspects of the claimed embodiments are directed to methods and systems for combining data and video signals into a composite signal and decomposing composite signals into individual data and video signals. The composite signal is encoded such that the data signal is either appended to an end of the video signal or the data signal is pre-pended to a beginning of the data signal. This is further illustrated via Applicant's Fig. 3 and described in the specification:
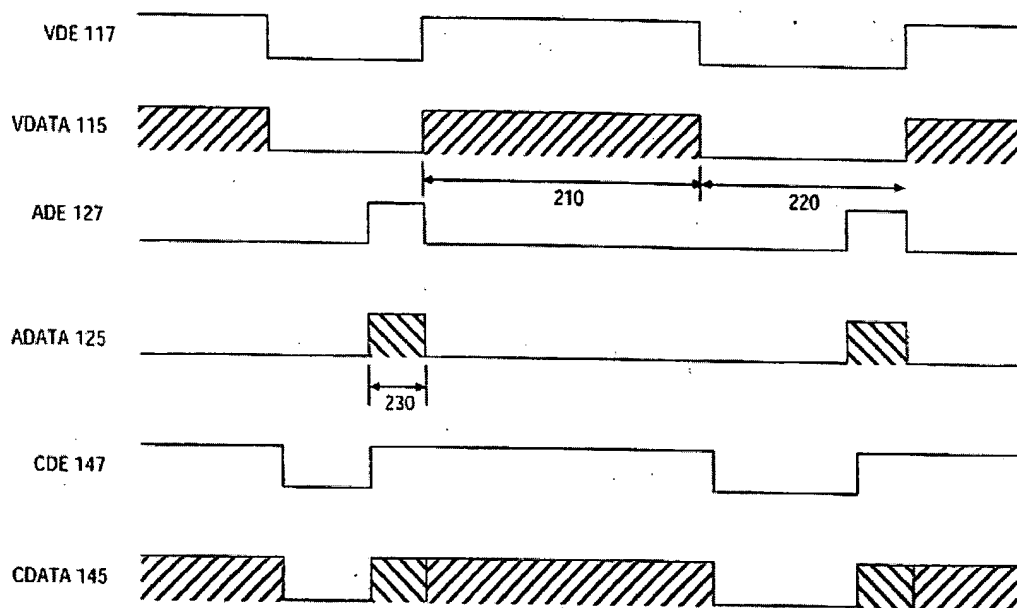

FIG. 3

[0035]   Figure 3 shows another embodiment of signals that may be processed by

transmitter 100. In this embodiment, auxiliary data signal 125 is pre-pended onto video data

signal 115 to form composite data signal 145. Thus, the auxiliary data signal is merged with the

video data signal as a series of extra cycles at the leading edge of each video data period.

Similarly, the auxiliary data enable signal 127 is pre-pended onto video data enable signal 117 to

form composite data enable signal 147. In an alternative embodiment, the auxiliary data may be

appended to the trailing edge of each video data period to form a composite data signal. The

auxiliary data enable signal may be appended onto the video data enable signal to form a

composite data enable signal. The auxiliary data and the auxiliary data enable signal may be

transmitted during a part of video blanking period 220.

-Applicant's specification, paragraph 35

As can be seen, auxiliary data signal 125 is pre-pended to a rising edge of
video data signal 115 to form composite data signal 145. Additionally, the
auxiliary data signal 125 could be appended to a falling edge of the video data
signal 115 to form composite data signal 145. Advantageously, this method of
forming a composite signal by placing video data at a rising or falling edge of a
video signal can potentially allow for additional data to be placed in the
remaining blanking period.

In marked contrast, Koo does not teach the claimed embodiments of
combining an audio and video signal into a composite signal. Instead, Koo
explicity discloses for the audio signal data to be placed in the blanking region of
the video signal such as that shown in Koo's Fig. 5A:

R.G.B

Video Audio Video Audio
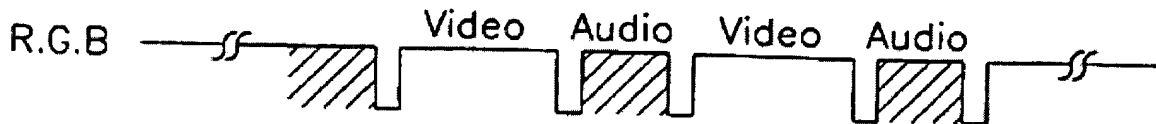
FIG. 5A

Since Koo teaches the placement of audio data in the blanking period and not appended to either side of the video signal, Koo does not disclose Applicant's claimed embodiments.

Regarding Limberg, Limberg does not disclose any methods or systems for encoding a composite signal and therefore also does not disclose Applicant's claimed embodiments. Furthermore, Applicant respectfully points out that the Examiner is mistakenly quoting a section of Limberg's disclosure as describing Limberg's error correction decoder 900 that is depicted in Limberg's Fig. 10. Shown below is the full paragraph from which the Examiner partially quoted in the Office Action:

> Receivers for the Yang system are also described by T. V. Bolger in his U.S. patent application Ser. No. 08/141,071 filed 26 Oct. 1993, entitled RECEIVER WITH OVERSAMPLING ANALOG-TO-DIGITAL CONVERSION FOR DIGITAL SIGNALS WITHIN TV SIGNALS, and incorporated herein by reference. These receivers digitize the response of a quadrature-phase video detector using an oversampling analog-to-digital converter. The digitized quadrature-phase video detector response is subjected to digital frame-comb and line-comb filtering to suppress remnant composite video signals; the comb filtering response is supplied to multi-level symbol decision circuitry to recover bit-serial digital data transmitted by the BPSK; and the bit-serial digital data is supplied to a decoder that corrects the digital information in the data using forward-error-correcting codes contained therein.

-Limberg, column 3, lines 15-30

As can be seen, the above-quoted passage describes U.S. patent application no. 08,141,071 and not Limberg's invention which includes error correction decoder 900.

In view of the foregoing, Applicant respectfully submits that the cited prior art, alone or in combination, does not disclose the claimed embodiments. Therefore, withdrawal of the rejections of the claims is respectfully requested.
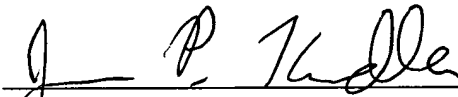
CONCLUSION

Applicant believes that all pending claims are allowable and a Notice of Allowance is respectfully requested. The amendment was made to expedite the prosecution of this application. Applicant respectfully traverses the rejections of the amended claims and reserves the right to re-introduce them and claims of an equivalent scope in a continuation application.

If the Examiner believes that a conference would be of value in expediting the prosecution of this application, he is cordially invited to telephone the undersigned counsel at the number set out below.

Respectfully submitted,
PERKINS COIE LLP

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